13/083-2-C1

Approved for use through 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complet if Known Substitute for form 1449A/PTO **Application Number** To be assigned Filing Date INFORMATION DISCLOSURE October 16, 2003 First Named Inventor G. KUKOLJ, et al STATEMENT BY APPLICANT Art Unit To be assigned Examiner Name To be assigned (Use as many sheets as necessary,

Attorney Docket Number

			U. S. PATENT D	OCUMENTS	
Examiner Initials*	Cite No.1	Document Number  Number-Kind Code <sup>2 (F Innover)</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
BLi		<sup>US-</sup> 20030148348 A1	08-07-2003	Kukolj, G. et al.	
BLI		<sup>US-</sup> 20020142350 A1	10-03-2002	Kukolj, G. et al.	
		US-			
		US-	_		
		US-			

,		FOREIG	N PATENT DOC	JMENTS		
Examiner	Cite	Foreign Patent Document	Publication Date	Name of Patentee or	Pages, Columns, Lines,	۱.,
Initials*	No.'	Country Code <sup>3</sup> Number <sup>4</sup> 'Kind Code <sup>6</sup> (# known)	MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	Ľ
BL:		WO 98/04008	01-29-1998	Motorola Inc.		
1	<u> </u>	WO 98/39031	9-11-1998	Washington University		
	1	WO 00/66623	11-9-2000	Boehringer Ingelheim		
V		WO 01/89364	11-29-2001	Washington University		
***************************************	1	••••••••••••••••••••••••••••••••••••••	***************************************	••••••••••••••••••••••••••••••••••••••		

Examiner Signature	Baggun Li	Date Consider	ed 05/10/2005

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the This collection of Information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to like (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

S	substitute for	form 1449B/PTO			Complete if Known			
					Application Number	To be assigned		
	INFOF	RMATION DI	SCLO	SURE	Filing Date	October 16, 2003		
	STAT	EMENT BY	APPLI	CANT	First Named Inventor	G. KUKOLJ, et al		
					Art Unit	To be assigned		
		(Use as many sheets as	necessary)	)	Examiner Name	To be assigned		
	Sheet	2	of	5	Attorney Docket Number	13/083-2-C1		

		NON PATENT LITERATURE DOCUMENTS					
Examiner Cite No.1		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					
BLi		FOURNIER, SUREAU et al.; In vitro infection of adult normal human hepatocytes in primary culture by hepatitis C virus; J. Virol.; 1998, V. 79; 2367-2374					
	***************************************	GRAKOUI, WYCHOWSKI et al.; Expression and Identification of Hepatitis C Virus Polyprotein Cleavage Products; J. Virol.; 1993, V. 67, No. 3; 1385-1395					
	) <u>120 000 0000</u> 0 0000	HIJIKATA, MIZUSHIMA et al.; Two Distinct Proteinase Activities Required for the Processing of a Putative Nonstructural Precursor Protein of Hepatitis C Virus; J. Virol.; 1993, V. 67, No. 8; 4665-4675					
	)	BARTENSCHLAGER, AHLBORN-LAAKE et al.; Nonstructural Protein 3 of the Hepatitis C Virus Encodes a Serine-Type Proteinase Required for Cleavage at the NS3/4 and NS4/5 Junctions; J. Virol.; 1993, V. 67, No. 7; 3835-3844					
		REED, XU et al.; Phosphorylation of the Hepatitis C Virus NS5A Protein In Vitro and In Vivo: Properties of the NS5A-Associated Kinase; J. Virol.; 1997, V. 71, No. 10; 7187-7197					
		KHROMYKH, WESTAWAY; Subgenomic Replicons of the Flavivirus Kunjin: Construction and Applications; J. Virol.; 1997, V. 71, No. 2; 1497-1505					
	) 4 2 2 4 5 4 5 2 4 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BEHRENS, GRASSMANN et al.; Characterization of an Autonomous Subgenomic Pestivirus RNA Replicon; J. Virol.; 1998, V. 72, No. 3; 2364-2372					
		MIZUTANI, KATO et al.; Characterization of Hepatitis C Virus Replication in Cloned Cells Obtained from a Human T-Cell Leukemia Virus Type 1-Infected Cell Line, MT-2; J. Virol.; 1996, V. 70, No. 10; 7219-7223					
		MOSER, TRATSCHIN et al.; A Recombinant Classical Swine Fever Virus Stably Expresses a Marker Gene; J. Virol.; 1998, V. 72, No. 6; 5318-5322					
	************	KEDA, SUGIYAMA et al.; Human hepatocyte clonal cell lines that support persistent replication of hepatitis C virus; Virus Research; 1998, V. 56; 157-167					

Examiner Signature Considered Considered
--

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute f	INFORMATION DISCLOSURE STATEMENT BY APPLICANT			Complete if Known		
				Application Number	To be assigned	
INFO	RMATION D	ISCLO	SURE	Filing Date	October 16, 2003	
STA	<b>FEMENT BY</b>	APPLI	CANT	First Named Inventor	G. KUKOLJ, et al	
•				Art Unit	To be assigned	
	(Use as many sheets a	s necessary)		Examiner Name	To be assigne	
Sheet	3	of	5	Attorney Docket Number	13/083-2-C1	

			NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*		Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Τ°
			DASH, HALIM et al.; Transfection of HepG2 Cells with Infectious Hepatitis C Virus Genome; Amer. J. Pathology; 1997, V. 151; 363-373	
			KWONG,KIM et al.; Hepatitis C Virus NS3/4A protease; Antiviral Research 1998, V. 40; 1-18	
••••			LANFORD, SUREAU et al; Demonstration of in Vitro Infection of Chimpanzee Hepatocytes with hepatitis C Virus Using Strand-Specific RT/PCR; Virology; 1994, V. 202; 606-614	<b></b>
/		**********	LESBURG, CABLE et al; Crystal structure of the RNA-dependent RNA polymerase from hepatitis C virus reveals a fully encircled active site; Nat. Struc. Biolo; 1999 V.6 No. 10; 937-943	
		·= <del></del>	LOHMANN, KORNER et al; Replication of Subgenomic Hepatitis C Virus RNAs in a Hepatoma Cell Line; Science; 1999, V.285; 110-113	
	***********	***********	LOHMANN, KORNER et al; Mutations in Hepatitis C virus RNAs Confering Cell Culture Adaptation; J. Virology; 2001, V. 75, No. 3, 1437-1449	
	•••••	·	LOVE, PARGE et al; The Crystal Structure of Hepatitis C Virus NS3 Proteinase Reveals a Trypsin-like Fold and a Structural Zinc Binding Site; Cell; 1996, V. 87, 331-342	
	*******	***************************************	SHIMIZU, Purcell et al; Correalation between the infectivity of hepatitis C virus in vivo and its infectivity in vitro; Proc. Natl. Acad Sci. USA; 1993, V. 90; 6037-6041	
	/		YANAGI, ST. CLAIRE et al; In vivo analysis of the 3' untranslated region of the hepatitis C virus after in vitro mutagenesis of an infectious cDNA clone; Proc. Natl. Acad. Sci. USA 1999, V. 96, 2291-2295	

Examiner Signature Science	Date Considered	05/10/0005
----------------------------	--------------------	------------

<sup>&</sup>quot;EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Petent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Sub	INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Complete if Known				
					Application Number	To be assigned	
11	NFOR	RMATION DI	SCLO	SURE	Filing Date	October 16, 2003	
S	STATEMENT BY APPLICANT		First Named Inventor	G. KUKOLJ, et al			
					Art Unit	To be assigned	
	(	(Use as many sheets as	necessary	)	Examiner Name	To be assigned	
Sh	heet	4	of	5	Attorney Docket Number	13/083-2-C1	

		NON PATENT LITERATURE DOCUMENTS	
Examiner nitials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	ook, T²
BCi		BRESSANELLI, TOMEI et al.; Crystal structure of the RNA-dependent RNA polymerase of hepatitis C virus; PNAS; 1999, V. 96, No. 23; 13034-13039	
		KIM, MORGENSTERN et al.; Hepatitis C virus NS3 RNA helicase domain with a bound oligonucleotide: the crystal structure provides insights into the mode of unwinding; Structure; 1998, V. 6; 89-100	
		YAN, LI et al.; Complex of NS3 protease and NS4A peptide of BK strain hepatitis C virus; A 2.2 A resolution structure in a hexagonal crystal form; Protein Science; 1998, V. 7; 837-847	
	) <del></del>	YAO, HESSON et al.; Structure of the hepatitis C virus RNA helicase domain; Nature Structural Biology; 1997, V. 4, No. 6; 463-467	
	****************	ITO, MUKAIGAWA et al.; Cultivation of hepatitis C virus in primary hepatocyte culture from patients with chronic hepatitis C results in release of high titre infectious virus; J. Gen. Virol.; 1996, V. 77; 1043-1054	
		YOO, SELBY et al.; Transfection of a Differentiated Human Hepatoma Cell Line (Huh7) with In Vitro-Transcribed Hepatitis C Virus (HCV) RNA and Establishment of a Long-Term Culture Persistently Infected with HCV; J. Virol.; 1992, V. 69, No. 1; 32-38	
		AGO, ADACHI et al.; Crystal structure of the RNA-dependent RNA polymerase of hepatitis C virus; Structure; 1999, V. 7; 1417-1426	
	,	BLIGHT, KOLYKHALOV et al.; Efficient Initiation of HCV RNA Replication in Call Culture; Science; 2000, V. 290; 1972-1974	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

<sup>\*\*</sup>EXAMINER: Initial in reference considered, wisher or not citation to a policant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid CMB control number.

Substitute f	or form 1449B/PTO			Complete if Known		
				Application Number	To be assigned	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	October 16, 2003	
				First Named Inventor	G. KUKOLJ, et al	
				Art Unit	To be assigned	
	(Use as many sheets as	necessary	)	Examiner Name	To be assigned	
Sheet	5	of	5	Attorney Docket Number	13/083-2-C1	

NON PATENT LITERATURE DOCUMENTS							
Examiner Cit							
BLi	CHO, HA et al.; Crystal Structure of RNA Helicase from Genotype 1b Hepatitis C Virus; J. Biol. Chemistry; 1998, V. 273, No. 24; 15054-15052						
	120000000000000000000000000000000000000	GALE JR., KORTH et al.; Evidence that Hepatitis C Virus Resistance to Interferon is Mediated through Repression of the PKR Protein Kinase by the Nonstractural 5A Protein; Virology; 1997, V. 230; 217-227					
		GRAKOUI, MCCOURT et al.; A second hepatitis C virus-encoded proteinase; Proc. Natl. Acad. Sci. USA; 1993, V. 90; 10583-10587					
	1+1++++++++++++++++++++++++++++++++++++	GOU, JU-TAO et al.; Effect of Alpha Interferon on the Hepatitis C virus Replicon; J. Virol.; 2001, 75(18):8516-8523					
	***************************************	HIJIKATA, MAKOTO et al.; Gene mapping of the putative structural region of the hepatitis C virus genome by in vitro processing analysis; Proc. Natl. Acad. Sci.; 1991, 88:5547-5551					
		KIM, DONG WOOK et al.; C-Terminal Domain of the Hepatitis C Virus NS3 Protein Contains an RNA Helicase Activity; 1995, 215(1):160-166					
	***************************************	KIM, JE. et al; Subcellular localization of hepatitis C viral proteins in mammalian cells; Arch Virol.; 1999, 144:329-343					
	***************	KIM, J.L. et al; Crystal Structure of the Hepatitis C Virus NS3 Protease Domain Complexed with a Synthetic NS4A Cofactor Peptide; Cell; 1996, 87:343-355					
/		KRIEGER, NICOLE, et al; Enhancement of Hepatitis C Virus RNA Replication by Cell Culture-Adaptive Mutations; J. of Virol.; 2001, 75(10:4614-4624					
V	*************	International Search Report issued March 3, 2003 for PCT/CAD1/01843 the counterpart of Parent U.S. Application 10/029,907.					

	Examiner Signature	Burgen Li	Date Considered	1005
--	-----------------------	-----------	-----------------	------

<sup>&</sup>quot;EXAMINER: Initial If reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete. Including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FOKAIS TO 1HIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.